Beginning on October 9, 2011, ENRAF 152 levels began to slowly increase from 0.26 in. to a maximum value of 0.51 in. on October 13, 2011. Levels then gradually declined to less than 0.25 in. by October 27, 2011. Figure 4-28 shows SDDS data for the October 4, 2011 to November 8, 2011 time period.

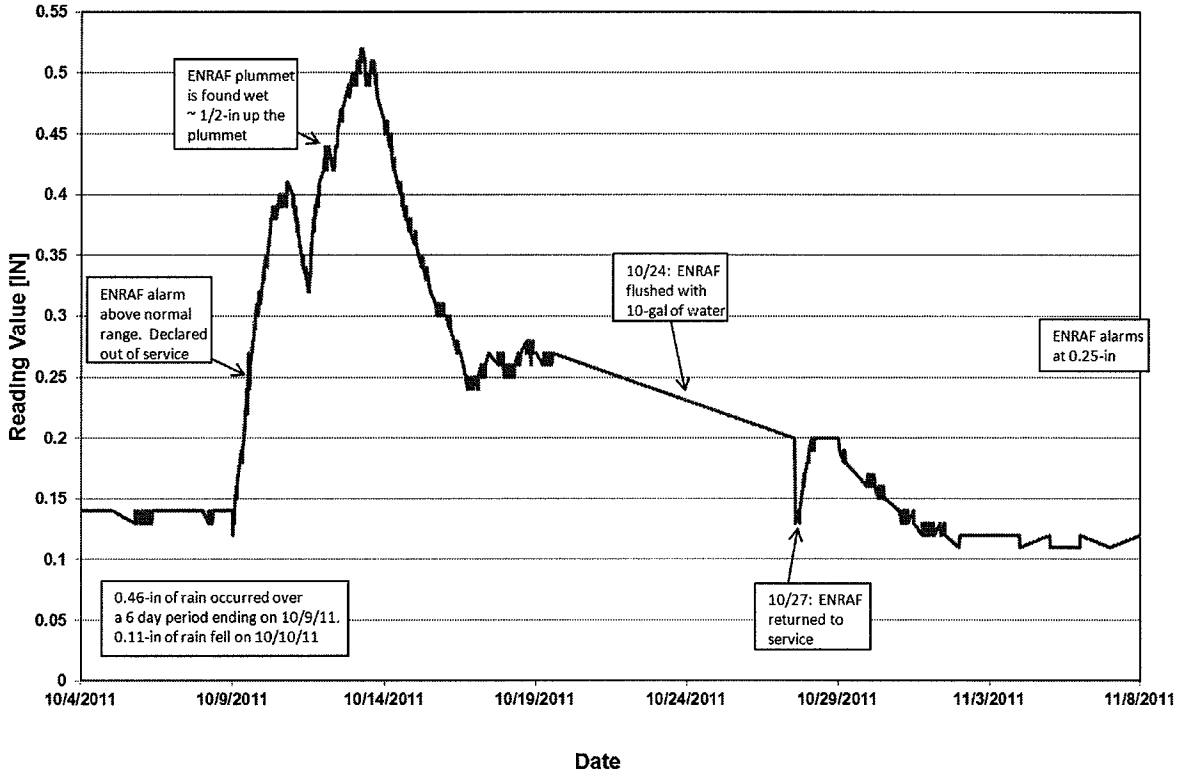

Figure 4-28. Tank AY-102 Riser 90 Annulus ENRAF 152 Liquid Levels October 2011

Prior to October 9, 2011, 0.46 in of rain occurred over a 6 day period and an additional 0.11 in. of rain fell on October 10, 2011 (Hanford Meteorological Station, October 2011 Monthly Summary). An increase in liquid level and high-level alarm at TMACS occurred on October 9, 2011 for ENRAF 152 (WRPS-PER-2011-2120). On October 12, 2011 it was determined ENRAF 152 was working properly and the plummet was found wet approximately ½ in. up the plummet with a radiation dose rate of 2 – 4 mrem/hr through the sight glass enclosure (see Figure 4-27). Rainwater intrusion was thought to be the cause of the wetness (TOC-ENV-NOT-2011-0012). On October 24, 2011 the ENRAF was again flushed with water. The dose rate on the plummet was 5 mrem/hr before flushing and 1.5 mrem/hr afterwards. As a result of these events, it was recommended that a camera be inserted into the annulus to see if the suspected water intrusion could be pinpointed (WRPS-PER-2011-2120). However, a camera was not inserted into the annulus space until August 2012 (see Sections 4.1.7 and 4.2.6). Table 4-18 provides the chronology of events between the alarm on October 9, 2011 and the ENRAF 152 return to service on October 27, 2011.